WHAT IS CLAIMED IS:

1. A method of making carbon foam comprising pyrolizing a mixture comprising at least one pyrolizable material in the presence of at least one oxidizing source and optionally at least one fuel source other than said pyrolizable material.

2. The method of claim 1, wherein said at least one fuel source is present.

3. The method of claim 1, wherein said pyrolizable substance comprises coal.

4. The method of claim 1, wherein said pyrolizable substance is an organic compound.

5. The method of claim 1, wherein said pyrolizable substance comprises at least one carbohydrate.

6. The method of claim 1, wherein said pyrolizable substance is sugar or cellulose.

7. The method of claim 2, wherein said fuel source is a liquid or gas or combination thereof.

8. The method of claim 2, wherein said fuel source is natural gas.

9. The method of claim 2, wherein said fuel source is a hydrocarbon containing material.

10. The method of claim 1, wherein said oxidizing source is air, oxygen, or both.

11. The method of claim 1, wherein said oxidizing material is present in an amount which is between 0.05 and 0.75 of the amount needed to combust completely the pyrolizable material and fuel; and the fuel is present in an amount such that its complete combustion consumes between 0 and 100 % of the oxidizable material.

12. The method of claim 1, wherein said pyrolizable material, fuel source when present, and oxidizing source are introduced sequentially in any order.

13. The method of claim 1, wherein said pyrolizable material, fuel source, and oxidizing source are added as a mixture.

14. The method of claim 1, wherein said at least one pyrolizable material is introduced into a combustion chamber by being dispersed in said fuel source when present or said oxidizing source or both.

15. The method of claim 14, wherein said fuel source is a liquid.

16. The method of claim 14, wherein said fuel source is a gas.

17. The method of claim 2, wherein said fuel source and said oxidizing source are introduced into a combustion chamber prior the introduction of at least one pyrolizable material and wherein said fuel source and oxidizing source are ignited prior to introducing said at least one pyrolizable material into said chamber.

18. The method of claim 1, wherein said at least pyrolizable material is introduced by being dispersed in a carrier stream.

19. The method of claim 18, wherein said carrier stream is an inert gas.

20. The method of claim 18, wherein said carrier gas is a fuel source or an oxidizing source or both.

21. The method of claim 1, wherein said pyrolizing occurs at a temperature of from about 300° C to about 1600° C.

22. Carbon foam formed by the method of claim 1.

23. Carbon foam formed by the method of claim 2.

24. The carbon foam of claim 22, said carbon form having cells bordered by thin sheets, windows, struts, or combinations thereof.

25. The carbon foam of claim 23, said carbon form having cells bordered by thin sheets, windows, struts, or combinations thereof.

26. The carbon foam of claim 22, wherein said cells have openings between them.

27. The carbon foam of claim 22, wherein said carbon foam is rigid.

28. A thermal insulating material comprising the carbon foam of claim 22.

29. A polymer compound comprising the carbon foam of claim 22, or fragments thereof.

30. An electrode comprising the carbon foam of claim 22.

31. A capacitor electrode comprising the carbon foam of claim 22.

32. An elastomer compound comprising the carbon foam of claim 22, or fragments thereof.

33. A fuel cell comprising the carbon foam of claim 22.

34. A battery electrode comprising the carbon foam of claim 22.

35. The method of claim 1, wherein said pyrolizable substance comprises at least one hydrocarbon containing material.